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Two new species of the genus *Neoseiulus* Hughes (Acari: Phytoseiidae) from Greece with re-description of *Neoseiulus leucophaeus* (Athias-Henriot)

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Abstract

Two new species, *Neoseiulus elisiensis* **n. sp.** and *Neoseiulus neomarginatus* **n. sp.**, are described from Greece. *Neoseiulus leucophaeus* (Athias-Henriot) is re-described and illustrated based on specimens collected on *Thymelaea hirsuta* (L.) Endl. A key to all species of the genus *Neoseiulus* Hughes reported from Greece is provided.

Key words: phytoseiid mites, *Neoseiulus*, taxonomy, *Thymelaea*

Introduction

The genus *Neoseiulus* Hughes is one of the largest in the family Phytoseiidae, containing 375 species (including synonyms) worldwide (Prasad, 2012). Species in this genus are found in all zoogeographic regions except Antarctica, in a wide variety of habitats. They seem to be pioneers, occurring with greater frequency than *Amblyseius*-like species in temperate and subarctic habitats only recently freed from glaciation (Chant & McMurtry, 2003). Among the phytoseiid mites currently being mass cultured and utilised in biological control are *N. californicus* (McGregor), *N. cucumeris* (Oudemans) and *N. fallacis* (Garman) (Prasad, 2012). Until now, 18 species of the genus *Neoseiulus* have been reported from Greece (Papadoulis *et al*., 2009; Stathakis & Papadoulis 2012). In this study two new species, *N. elisiensis* **n. sp.** and *N. neomarginatus* **n. sp.**, are described and illustrated. *Neoseiulus leucophaeus* (Athias-Henriot) is also re-described and illustrated in detail, as some features (e.g. chelicera, solenostomes on dorsal shield, leg IV) are missing from the original description and the re-description by Denmark (1993). A key to all species of the genus *Neoseiulus* reported from Greece is provided.

Material and methods

Samples of wild and cultivated plants were collected from many localities of Greece. Mites were extracted using the Berlese-Tullgren method and stored in 70% ethanol. Permanent mounts were made using Hoyer's medium. A Zeiss Axioskop 2 plus drawing tube (camera lucida) was used for the illustrations. For preparation of the drawings CorelDRAW 11 was used. The taxonomic system is based on that proposed by Chant & McMurtry (2007) and Papadoulis *et al*. (2009). The setal nomenclature is based on the system proposed by Lindquist & Evans (1965), as adapted for the family Phytoseiidae by Rowell *et al*. (1978), Chant & McMurtry (2007) and Papadoulis *et al*. (2009). Other terminology follows Athias-Henriot (1975, 1977) for organotaxy; Evans (1963) and Evans & Till (1979) for the ventral pores and leg chaetotaxy; and Wainstein (1973) for the spermatheca as proposed by Papadoulis *et al*. (2009). The dorsal and ventral setal pattern notation follows Chant & Yoshida-Shaul (1989, 1991, 1992). Morphological features of the adult female and male were measured as proposed by Papadoulis *et al*. (2009). All measurements are given in micrometres (μm) and presented as the median followed by the range in parentheses. For all species, the synonyms, habitats and worldwide distribution records are given. Permanent slide

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